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Patent claims

1. Method for transmitting data in a multi-carrier system to
which a frequency band is assigned, for which the carrier
5   frequencies are subdivided into at least one sub-carrier band
dividing the frequency band, c h a r a c t e r i z e d   i n   that on
the send side, depending on the current transmission charac-
teristics, an adaptive pre-emphasis of the send signal is
undertaken for a part of the carrier frequencies of the sub-
10   carrier band.

2. Method in accordance with Claim 1, c h a r a c t e r i z e d   i n
that filtering and/or a windowing of the time occurs in the
time and/or frequency range.
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3. Method in accordance with Claim 1 or 2, c h a r a c t e r -
i z e d   i n   that the filtering is undertaken by a signal fil-
ter, which exhibits essentially high filter rates of change
in the frequency range.
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4. Method in accordance with one of the Claims 1 to 3,
c h a r a c t e r i z e d   i n   that, for filtering and/or windowing
a "Blackman", "Bartel", "Kaiser", "Papoulis" or comparable
window function is used which is embodied such that the win-
25   dowing is executed in the time range and with an oversampling
preferably being used to achieve high filter rates of change
in the frequency range.

5. Method in accordance with one of the previous claims,
30   c h a r a c t e r i z e d   i n   that the multi-carrier system is used
in combination with an "FDMA" (Frequency Division Multiple
Access) method, especially the "OFDMA" (Orthogonal Frequency
Division Multiple Access) method.

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6. Method in accordance with one of the Claims 1 to 5 ,
c h a r a c t e r i z e d   i n   that the pre-emphasis is limited to
carrier frequencies in edge areas of the sub-carrier which is
preferably assigned to one user, especially bordering on
5   other sub-carrier bands.

7. Method in accordance with one of the previous claims,
c h a r a c t e r i z e d   i n   that value of a first symbol dura-
tion assigned to one of the emphasized carrier frequencies
10   remains the same, with, especially with time range windowing
or filtering or the folding operation in the frequency range,
the overall length of the time range window $\omega_{(k)}$ not exceeding

the OFDM symbol duration i.e. the OFDM useful symbol duration
as well as the duration of the cyclic prefix and the neces-
15   sary rate of change of the sub-carriers is essentially deter-
mined by the oversampling.

9. Transmit device for transmitting data in a multi-carrier
system to which a frequency band is assigned, of which the
20   carrier frequencies are subdivided into at least one sub-
carrier band subdividing the frequency band, c h a r a c t e r -
i z e d   b y
   a) means for determining current transmission characteris-
      tics,
25   b) means for adaptive pre-emphasis for a part of the carrier
      frequencies of the sub-frequency band of the send signal.